INPLASY

# Prevalence of Nutritional Status in Migrant Workers : a systematic review and metaanalysis

INPLASY202540030
doi: 10.37766/inplasy2025.4.0030
Received: 9 April 2025
Published: 9 April 2025

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**ADMINISTRATIVE INFORMATION**

**Support -** None.

**Review Stage at time of this submission -** The review has not yet started.

**Conflicts of interest -** Declared individual interests are recorded under team member details.. No additional interests are recorded for this review.

**INPLASY registration number:** INPLASY202540030

**Amendments -** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 9 April 2025 and was last updated on 9 April 2025.

## INTRODUCTION

**Review question / Objective** Prevalence data is initial data that can be used to estimate priority interventions to be implemented by the government and health workers in preventing disease in the future.
Based on the author's analysis, until now there is still no review showing data on the prevalence of nutritional status in migrant workers. Therefore, the aims of this systematic review and meta-analysis are to get a complete picture of the nutritional status in migrant workers.
Review question: What is the prevalence of nutritional status in migrant workers?

**Rationale** Nutritional Status define as assessment of nutritional health, including underweight, normal, overweight and obese based on WHO anthropometry standards in population migrant workers around the world. Based on the author's analysis, until now there is still no review showing data on the prevalence of nutritional status in migrant workers. Prevalence data is initial data that can be used to estimate priority interventions to be implemented by the government and health workers in preventing disease in the future.

**Condition being studied** We will search for prevalence of nutritional status in migrant worker.

## METHODS

**Search strategy** All data will be extracted following PRISMA guidelines.
The article search strategy method in this review uses several databases such as PubMed, CINAHL, EMBASE, OVID, Scopus and Web of Sciences without using language restrictions and year of publication. The search for keywords used by the author uses guidelines from Medical Subjective Heading (MeSH) with an explosion function if available including the terms “migrant worker*”, “nutritional status” and “prevalence” in the title and

also in the article section. Researchers did not limit the year of publication because research that focuses on nutritional status in migrant workers, is still relatively small and not widely done. The language barrier was also not implemented by the researchers to avoid wasting articles that had a high probability of giving positive results in the analysis carried out.

**Participant or population** The population is migrant worker that has data for nutritional status.

**Intervention** None.

**Comparator** None.

**Study designs to be included** Cohort study, observational study, and cross-sectional study will be included in this review.

**Eligibility criteria** Population: The population is migrant worker that has data for nutritional status
Intervention or Exposure: none
Comparator or control: none
Context: This review will be focused on nutritional status in migrant worker.

**Information sources**
CINAHL: https://web.p.EBSCOhost.com Embase: https://www.embase.com/search/quick?phase=continueToApp
PubMed: https://PubMed.ncbi.nlm.nih.gov
Scopus: https://www.Scopus.com/search/form.uri?display=basic#basic
Web of Science: https://www.webofscience.com/wos/woscc/basic-search
MEDLINE: https://www.nlm.nih.gov/MEDLINE/medline_overview.html
OVID: https://www.wolterskluwer.com/en/solutions/ovid/ovid-medline-901

**Main outcome(s)** To obtain the prevalence of nutrition status among migrant worker on the cut of point of each instrument in each study and To identify any significant factors that are associated with nutrition status among migrant worker.

**Additional outcome(s)** We will analyze the data using Comprehensive Meta Analysis (CMA) tools for pooled effects with a 95% confidence interval (CI) according to homogeneity of the data.

**Data management** Data extraction will be carried out by 1 reviewer (HAN) and independently will be confirmed by another (AAP, HSS & YSC) to extract parts of the article such as the number of participants, study design, diagnostic methods used, research location settings, and determinants and outcomes. All forms of disagreements between reviewers are resolved through the discussion method until an agreement is reached. All data will be extracted following PRISMA guidelines.

**Quality assessment / Risk of bias analysis** 3 reviewers will screened the risk of bias for each article using the help of Robvis visualization tools (Risk of Bias in Non-randomized Studies – of Exposures/ROBINS-E tool) which had 7 domain that could assess the quality of the methodology used in each article.

**Strategy of data synthesis** Nutritional Status define as assessment of nutritional health, including underweight, normal, overweight and obese based on WHO anthropometry standards in population migrant workers around the world.
Any article that does not show the prevalence of nutritional status in migrant worker will be excluded. This review will be analyzed in a description format to provide complete and extensive information about the characteristics of the research covered. The analysis will be done quantitatively for the pooled prevalence estimates.
The first data analysis to be performed is descriptive statistics. Meta-analysis will be conducted when enough homogeneity across studies is found. To investigate homogeneity across studies, $I^2$ will be used and low heterogeneity will be considered if $I^2 < 50\%$. The transition rates of each of the included studies were combined using a random-effects meta-analysis. A random-effects model was chosen a priori due to expected high heterogeneity from differences in study population, study settings, study determinant and outcomes.
Publication bias was examined graphically by funnel plots and statistically by Begg's rank correlation test and Egger's linear regression test. Comprehensive Meta-Analysis (CMA) software was used for all analyses and the main result will be provided as a percentage with a 95 percent confidence interval.
The overall quality of the evidence will be summarized using the GRADE (Grading of Recommendations Assessment, Development and Evaluation) guideline. The classification of GRADE system for the body of evidence rang from high- to very low-quality. Three independent reviewers (HAN, AAP, & HS) independently will assess the quality of the evidence using GRADE.

**Subgroup analysis** This study will conduct subgroups in each study characteristic.

**Sensitivity analysis** Sensitivity analyses will be conducted to determine the impact of each study on the overall effect by removing one study at a time and studies with a high or moderate risk of bias for the robustness of the pooled prevalence or other outlier considerations discovered in the main analysis. To assess publication bias, a visual inspection of the funnel plot (if there are more than 10) and the Peters' regression test will be used (Sterne and Egger, 2001; Peters et al., 2006). The trim-and-fill approach would be utilized for the modification if the presence of publication bias is discovered with a significant result (p 0.10) (Shi and Lin, 2019).

**Language restriction** The language barrier was also not implemented by the researchers to avoid wasting articles that had a high probability of giving positive results in the analysis carried out.

**Country(ies) involved** Indonesia; Taiwan.

**Keywords** Nutritional status, migrant workers, prevalence.

**Dissemination plans** The project will publish as soon as possible in the journal indexed by SCI/SSCI/WOS.

**Contributions of each author**

Author 1 - Suh-Ching Yang - Author 1: Writing review & editing, Visualization, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.
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